Reviewer #2

I have one suggestion. It is well known that the MSE budget cannot often be closed for various reasons. Additionally, understanding the propagation and maintenance of the MJO relies on the balance among the major components of the MSE equation. Therefore, it would be ideal to include a cautionary statement about the limitations of using reanalysis and model simulation data for the MSE budget. For more details, please refer to the provided reference.

Inoue, K et al (2026): Accurate Column Moist Static Energy Budget in Climate Models. Part 1: Conservation Equation Formulation, Methodology, and Primary Results Demonstrated Using GISS ModelE3, Journal of Advances in Modeling Earth Systems, 18(3), e2025MS005564, https://doi.org/10.1029/2025MS005564.

Response: We thank the reviewer for this helpful suggestion and for recommending Inoue et al. (2026). We agree that column-integrated MSE budgets derived from reanalysis and model output may not be fully closed, which can introduce uncertainties in quantifying the contributions of individual budget terms. We have therefore added a cautionary statement to Section 2.3.2 of the revised manuscript (Lines 247–252), acknowledging these limitations and clarifying the interpretation of our MSE budget diagnostics. The added text reads:

"Column-integrated MSE budgets derived from reanalysis and model output may not close exactly. As highlighted by Inoue et al. (2026), numerical discretization, mass filtering, and postprocessing procedures such as vertical interpolation can introduce substantial budget residuals, potentially affecting the estimated contributions of individual MSE budget terms. Since budget residuals are not explicitly evaluated in this study, the contributions inferred from individual MSE budget terms should be interpreted with caution."